UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,516	12/27/2001	Junpei Ikegawa	2001_1869A	9397

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EXAMINER
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ART UNIT	PAPER NUMBER
2668	

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/026,516	IKEGAWA, JUNPEI
	Examiner	Art Unit
	Vidya Sagar	2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>27 December 2001</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) <u>1-8</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>1-8</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 December 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/27/2001</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a
person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived
by the manner in which the invention was made.

.Claims 1,2,3, and 6 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tao Yang, et al. (US 6,097,698) in view Phillip D. Crary (US

5,802,579).

Regarding claims 1 and 2 Yang teaches a memory for retaining a wireless

send queue whose members are transmission data awaiting (Fig.3, element 32, column

25, lines 50-52) where it is mentioned that a buffer buffers selected cells prior to

transmission; linking means for linking multiple transmission data to form members of

the wireless send queue (Fig. 2) where the individual cells are linked together to form a

link of data members to form a send queue; wireless send means for loading a wireless

send queue member output from the memory in a data transmission slot(Fig. 3, element

34, column 5, lines 42-45) where the output interface receives the cells in the buffer

which is analogous to loading a wireless send queue member output from the memory

in a data transmission slot; control means responsive to output of a wireless send

queue member from the memory for controlling retention of a next wireless send queue

member in the memory(Fig. 3, element 35, 50, column 8, lines 5-13); control means that

monitors the number of wireless send queue members retained in the memory and

effects control for retaining the next wireless send queue member in the memory when

no wireless send queue member is retained or the number of retained wireless send

queue members is smaller than at the time of preceding output (Fig. 3, element 35,

column 8, lines 43-49), where control means keeping track of counter is analogous to

control means monitoring of send queue of the claim.

Yang does not teach the above for a wireless system. Secondary Crary teaches a

wireless system (column 4, lines 58-60) where satellite communications is cited.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the memory, linking, loading and control means of Yang

to the wireless system of Crary. Motivation being faster wireless data transmission.

Regarding claim 3, Yang teaches all of claim 1 but does not teach control means that

effects control for retaining the next wireless send queue member in the memory

synchronously with output of a wireless send queue member from the memory.

However Crary teaches simultaneous reads and writes (Fig. 1, column 4, lines 46-49)

where it mentions that data is provided to output lines as it is written into RAM.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the memory, linking, loading and control means of Yang

to Simultaneous Read and Write system of Crary. Motivation being higher QoS (Quality

of service).

Regarding claim 6, Yang teaches a buffer for retaining frames to be sent in at least one of the base station and the customer station (Fig. 2, element 32); a comparing means for comparing the size of a frame to be sent retained in the buffer and the size of an empty region of a wireless send queue member (column 2, lines 53-55) where cell occupancy of a buffer is tested before a cell can be inserted which is analogous to comparing empty region as per the claim; and loading means for loading a loadable number of frames to be sent in the same data communications channel (column 2, lines 51-53) which describes cells being buffered prior to transmission and which is analogous to loading of frames.

Yang does not teach the above in the confines of a wireless system. Secondary Crary teaches a wireless system (column 4, lines 58-60) where satellite communications is cited. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine buffer comparing means and loading of Yang to the wireless system of Crary. Motivation being faster wireless data transmission.

Claims 4,5,7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tao Yang, et al. (US 6,097,698) in view Eric Turcotte, et al. (US 6,137,772).

Regarding claim 4, Yang teaches a memory for retaining a wireless send queue whose members are transmission data awaiting transmission (Fig.3, element 32, column 2, lines 50-52) where it is mentioned that a buffer buffers selected cells prior to

transmission; linking means for linking multiple transmission data to form members of the wireless send queue (Fig. 2) where the individual cells are linked together to form a link of data members to form a send queue; wireless send means for loading a wireless send queue member output from the memory in a data transmission slot(Fig. 3, element 34, column 5, lines 42-45) where the output interface receives the cells in the buffer. Yang does not teach control means, responsive to output from the memory of a wireless send queue member under link/insertion processing or to a condition in which loading of next transmission data in a wireless send queue member under link/insertion processing would make its size larger than the data transmission slot, for shifting the processing of the linking means to processing for linking and inserting transmission data in the next wireless send queue retained in the memory. Secondary Turcotte teaches (column 4, lines 15-17) messages being inserted in a single superframe and (Fig. 2, column 4, lines 28-32) describes messages which are unable to occupy the current superframe due to not having enough bandwidth being assigned to be transmitted with the next superframe.transmission. This is analogous to the control means of the claimed invention that responsive to output from the memory of a wireless send queue. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine memory, linking and loading of Yang to superframe transmission means of Turcotte. Motivation being reduced time delay of transmission of data, thus increasing throughput.

Yang does not teach the Digital Network for a wireless system. Secondary Turcotte teaches a wireless/mobile system (Fig. 5, column 7, lines 42-47) where a mobile station

receiving a message in a cellular network is cited. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the memory, linking, loading and control means of Yang to the wireless system of Turcotte. Motivation being faster wireless data transmission.

Regarding claim 5, Yang teaches memory and control means (Fig. 2, elements 32,35) as a physical module connected to an internal bus (Fig. 2, element 30), bus interface for forwarding a wireless send queue member output from the memory (Fig. 2, element 34). Yang does not teach control means that compares the size of an empty region of the wireless send queue member under link/insertion processing with the size of the next transmission data to be linked and inserted and shifts the link/insertion processing to the next wireless send queue member. Secondary Turcotte teaches (Fig. 2, column 4, lines 28-32) a message not having enough room in the current superframe being assigned into the next superframe which analogous to claim's comparing the size of an empty region in a queue and shifting the link/insertion processing to the next send queue. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine internal bus and external bus of Yang to message transmission of Turcotte. Motivation being higher throughput.

Regarding claim 7, Yang teaches a buffer for retaining frames to be sent (Fig. 2, element 32); and loading means for loading a loadable number of frames to be sent in the data communications channel.

Yang does not teach comparing means for comparing the size of a frame to be sent

retained in the buffer and the size of an empty region of a data communications

channel. Secondary Turcotte teaches (column 4, lines 28-31) where during the E-BCCH

cycle there may not be enough bandwidth for some messages to be transmitted and

hence they would be transmitted in the next superframe. This is analogous to

comparing frame size in the buffer and size of empty region in a data communications

channel. Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to combine buffer and loading means of Yang to message

transmission of Turcotte. Motivation being higher throughput.

Yang does not teach the Digital Network for a wireless system. Secondary Turcotte

teaches a wireless/mobile system (Fig. 5, column 7, lines 42-47) where a mobile station

receiving a message in a cellular network is cited. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to combine

the memory, linking, loading and control means of Yang to the wireless system of

Turcotte. Motivation being faster wireless data transmission.

Regarding claim 8, Yang teaches a buffer for retaining frames, loading a loadable

number of frames and Turcotte comparing the size of a frame as mentioned above (See

claim 7). Yang does not teach multiple frames to be sent are loaded in a single data

communications channel together with intervening data for indicating their boundaries.

However secondary Turcotte teaches (Fig. 2, element 11) being transmitted in a single

super frame with the dark regions (Fig. 2, between beginning and end of elements

12,13 and 14) acting as data boundaries. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine buffer and multiple frames Yang to message transmission of Turcotte. Motivation being faster acquisition of digital control channel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vidya Sagar whose telephone number is (571) 272-8196. The examiner can normally be reached on Monday thru Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vidya Sagar
Examiner
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VS

Seema S. Rao

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